ABSTRACT

A communication system is provided which enhances communication stability, using chips on which function blocks are formed including sensor, chip ID, and radio transmission/reception functions. The sensor detects biological and chemical materials and physical and stoichiometric quantities such as temperature, pressure, and pH and the sensed results are transmitted to a reader by a radio frequency (RF) function. The chip with the sensor functions at a resonance frequency which is detected by the reader initially during a frequency sweep. No dedicated power source is essential to operate the chips, but instead the chips are triggered into transmitting by the radio frequency signals transmitted from the reader. The frequency and output of transmission from the reader to the chips are variable. Stable communication can be performed without being affected by variation in the chips characteristics depending on manufacturing quality.